



Australian Bureau of Statistics

1357.0 - Information Paper: Improvements to ABS Economic Statistics, 1997

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Summary

Main Features

PREFACE

The Australian Bureau of Statistics (ABS) is committed to continually improving the accuracy and reliability of its statistics, especially the major economic indicators. This paper describes improvements that will be made in the near future to a range of economic statistics released by the ABS. These improvements will involve adjustments to previously published data reflecting better coverage of several surveys and better estimation methods. They will result in more accurate and consistent series in the Australian national accounts.

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LIST OF ABBREVIATIONS

ABS	Australian Bureau of Statistics
ATO	Australian Taxation Office
GDP	Gross Domestic Product
GDP(A)	Gross Domestic Product (Average)
GDP(E)	Gross Domestic Product (Expenditure based)
GDP(I)	Gross Domestic Product (Income based)
GDP(P)	Gross Domestic Product (Production based)
IBSC	Imputed Bank Service Charge
LFS	Labour Force Survey
NBP	New Business Provision
PFCE	Private Final Consumption Expenditure
PGFCEE	Private Gross Fixed Capital Expenditure on
SEE	Survey of Employment and Earnings

INTRODUCTION

The ABS takes every opportunity to improve the quality of its statistics and to implement best statistical practice. This paper describes several major improvements to ABS economic statistics that will affect series in a number of forthcoming ABS publications, including the June quarter 1997 national accounts and related economic indicator releases. Part A focuses on improvements to the coverage of a number of ABS Business Register-based collections that impact on a range of economic statistics. Part B describes improvements to the methodology for estimating constant price gross product for the finance and insurance industry in the national accounts. Both sets of improvements result in adjustments to national accounting aggregates that significantly improve the consistency and coherence of the estimates in recent years. Tables 1-4 at the back of this paper show the impact of the adjustments on the latest published annual estimates of Gross Domestic Product (GDP) and its main components for the years 1991-92 to 1995-96.

PART A: IMPROVEMENTS TO THE COVERAGE OF ABS ECONOMIC COLLECTIONS

Overview

The ability of business surveys to accurately measure the activity of a particular business population is largely dependent upon the availability of up-to-date and complete information identifying that population. This information is used to create a survey frame which should contain certain details (e.g. name, address, industry classification, employment size) about each business in the population. Most ABS business surveys base their frame upon information from the ABS Business Register. Information in the Register is primarily sourced from group employer registrations administered by the Australian Taxation Office (ATO). Name and address details of businesses registering as group employers are used to update the ABS Business Register.

The ABS has identified some past deficiencies in this updating process which have now been addressed. Audits identified businesses that were incorrectly omitted from the ABS Business Register, and therefore from survey frames. A special adjustment for missing businesses is being included in affected estimates and a quarterly audit program has been introduced to the Register to minimise the prospects of such omissions in the future.

As well as improving Business Register updating processes, improvements have been made to survey methodology. First, most frames for quarterly surveys are being refreshed quarterly. Second, to ensure that surveys more fully reflect the target population of businesses actually operating at the time of the survey, an ongoing New Business Provision (NBP) is being introduced to most series. The NBP will provide an estimate for those new businesses that have not yet been included on the ABS Business Register when the survey frame is created. (Some ABS series already make such an adjustment.)

Adjustment for missing businesses

Detailed investigations identified a significant number of businesses which are not recorded on the ABS Business Register, but should have been. These were mainly small businesses. The inadvertent omission of these businesses occurred in small quantities over a number of years, although their cumulative effect is quite significant. Several factors which resulted in their omission are described in the following paragraphs.

The ABS Business Register updating system relies upon information provided by the ATO and automatic and clerical techniques for matching the names and addresses of

businesses. The ATO system has undergone a number of changes in recent years which required changes to the ABS Business Register updating system. Some of these changes resulted in businesses not being processed to the Register. Other businesses were incorrectly removed from the Register after feedback from ABS business surveys indicated they appeared to be no longer operating.

Revised procedures and the implementation of a quality assurance program, including quarterly auditing, will ensure that there is no further significant increase in missing businesses once details of businesses registering as group employers are provided to the ABS.

The missing businesses are being investigated progressively to ensure they are still operating and not duplicated elsewhere on the Business Register. Approximately 60% of the missing businesses have been fully investigated with all confirmed live businesses added to the ABS Business Register. Investigations into the remaining 40% of the missing businesses commenced recently with a sample of the businesses investigated in detail. The details about missing businesses are therefore based on a mixture of:

- actual details of businesses' industry codes and employment details (for 60% of them); and
- estimates of industry and employment based upon the best available information (for the remaining 40%).
- estimates of industry and employment based upon the best available information (for the remaining 40%).

Their contribution to survey estimates is based on the count of them, and an average of the contribution from similar businesses actually included in surveys.

The ABS is now in the process of loading to the Register all those businesses which are actually operating.

Improved new business provision

The ABS Business Register should ideally record all businesses as soon as they commence operations. However, the ability to achieve this coverage is limited by the time it takes to obtain and process information from the ATO and other sources.

The ATO provides the ABS with files listing businesses registered as group employers. Each quarter the latest file is matched to that of the previous quarter to identify new registrations and hence new businesses. Until recently, the ABS had to survey each new business to be sure of its characteristics. Following a major upgrade by the ATO in the quality of group employer registration data, the full ABS survey is no longer necessary, and the registration details of most new businesses are loaded directly to the ABS Business Register, with a considerable time saving. However, the ABS will continue to directly survey new businesses having ten or more employees.

Under the new procedures and with quarterly matching, most new businesses are represented on the ABS Business Register within six months of registering with the ATO. This will be reduced to two months with the introduction of monthly matching of ATO group employer files. This will reduce the significance of the NBP in statistics released in the future.

To allow time for sample selection and dispatch of survey questionnaires, most frames for sub-annual surveys are extracted from the ABS Business Register prior to the end of the reference period to which they relate (e.g. in March for the June quarter). Similarly, frames for annual surveys are extracted at the start of the last month of the reference period. When the frames are extracted some new businesses are still being processed by the ABS and will in time be loaded to the Register, while some others may have commenced operations and will register with the ATO by the end of the reference period.

The delay in processing information from the ATO and the need to extract survey frames prior to the end of the reference period to which they relate, result in some businesses not being represented directly in quarterly survey estimates for the first two reference quarters after the quarter of registration. Most are represented directly in the third quarter. To allow for this delay and to more appropriately represent changes in the business population, the conceptual coverage of most business surveys has been changed from 'all businesses included on the ABS Business Register when the frame was created', to 'all businesses known to the ATO as group employers at the end of the reference period'. The improved coverage is being achieved by the introduction of a NBP in survey estimates.

The NBP is based upon a count of businesses registered with the ATO but not on the ABS Business Register, and an average of the contribution of similar businesses to survey estimates. This is similar to the method used to adjust for missing businesses, described earlier.

To ensure that this more representative coverage of surveys is applied consistently to all reference periods, an adjustment similar to the NBP has been applied to historical series wherever possible.

Several ABS surveys have been using NBPs to allow for businesses yet to be included on the ABS Business Register. Details are contained in relevant ABS publications and are summarised below.

Impact on business surveys

The inclusion of the adjustments for missing businesses and the NBP will impact upon both level and movement estimates. Level estimates will be adjusted significantly upwards and as the number of businesses missing from frames varied over time, there will be some adjustment to movement estimates.

Quarterly Survey of Employment and Earnings

Regular release of **Wage and Salary Earners, Australia** (Cat. no. 6248.0) will resume with the March quarter 1997 issue to be released on 11 September 1997. The estimates in this publication, derived from the quarterly Survey of Employment and Earnings, will incorporate both an adjustment for missing businesses and the NBP. Data adjusted back to 1983-84 will also be included in the publication.

Quarterly Private New Capital Expenditure and Stocks and Sales Surveys

The Private New Capital Expenditure and Stocks and Sales Surveys have contained a provision for new businesses since their inception. Therefore, the change of scope reflected in implementing the NBP is not significant. In September quarter 1994, the method for calculating this provision was replaced by an improved method very similar to that described in this paper. This change was introduced into these surveys ahead of other surveys because of the deficiencies identified in the original methodology. In September quarter 1996, a further improvement was made. Previously the surveys used frames which were

refreshed only annually. Since then, the survey frames have been refreshed quarterly and samples taken accordingly. The method for calculating the NBP described in this paper was adopted at that time.

Results from the June quarter 1997 surveys of Private New Capital Expenditure and Stocks and Sales, fully adjusted for missing businesses and the NBP, will be released on 28 August 1997 (**Private New Capital Expenditure and Expected Expenditure, Australia** (Cat. no. 5625.0)), and 1 September 1997 (**Stocks and Sales, Selected Industries, Australia** (Cat. no. 5629.0)), respectively.

Monthly Retail Trade

The monthly Retail Trade Survey already includes an adjustment to account for some of the missing businesses but currently does not include a NBP. The partial adjustment for missing businesses was included in the Retail Trade Survey when the survey was redesigned in early 1994. The partial adjustment was included at that stage as it was more efficient to allow for the missing businesses then than modify the time series to align with the new survey design (scope and coverage changes) and then modify them again later when more complete information became available.

Retail estimates adjusted for the remaining missing businesses and the NBP are expected to be released on 4 September 1997 in **Retail Trade, Australia, July 1997** (Cat. no. 8501.0).

Annual Economic Activity Survey

The results of the annual Economic Activity Survey released in **Business Operations and Industry Performance, Australia, 1994-95** (Cat. no. 8140.0) included the NBP and approximate adjustments for some of the missing businesses based upon some initial analysis. That analysis has now been extended. The missing businesses will be fully included in estimates with the release of 1995-96 data in September

Annual Manufacturing Survey

The results of the annual Manufacturing Survey released in **Manufacturing Industry, Australia, 1994-95** (Cat. no. 8221.0) and **Manufacturing Industry, Australia, Preliminary 1995-96** (Cat. no. 8201.0) included the NBP and approximate adjustments for some of the missing businesses based upon some initial analysis. That analysis has now been extended. The missing businesses will be fully included in estimates with the release of preliminary 1996-97 data in 1998, with adjustments as necessary to earlier data.

Other Business Register-based collections

Some Business Register-based collections will not introduce adjustments for the NBP or missing businesses. For example, the annual Mining Census uses additional sources of information about new businesses, such as the Register of Australian Mining and State Departments of Mines, to obtain individual details about new businesses before this information is available from the ABS Business Register. The Survey of Company Profits does not include smaller businesses (where almost all of the effect of missing businesses is evident in other surveys), so no adjustments have been necessary to this series either.

The quarterly Average Weekly Earnings Survey will introduce the NBP to align with other business surveys but previous estimates will not be adjusted as there will be a very small effect on averages and virtually no effect on quarter-to-quarter movements in averages.

Impact on the Australian national accounts

Adjustments to source data series for missing businesses and the NBP will be fully reflected in the June quarter 1997 national accounts (**Australian National Accounts: National Income, Expenditure and Product** (Cat. no. 5206.0)) to be released on 3 September 1997.

The impact on the national accounts of adjusting source data for missing businesses and the NBP is limited to certain components, and the size of the impact varies considerably amongst them. Table 1 shows the impact on the levels of the constant price estimates of GDP(E) and GDP(P) and table 2 shows the impact on the current price estimates of GDP(I), for the five years ended 1995-96, the period most affected by the adjustments. Tables 2, 3 and 4 show the impact of the adjustments on those major components of GDP affected.

The only component of GDP(I) affected is wages, salaries and supplements and this only to a very small extent. Generally speaking, wages and salaries are estimated by multiplying the number of wage and salary earners from the Labour Force Survey (LFS) by average earnings from the Survey of Employment and Earnings (SEE). The LFS is a survey of households and so is not affected by the adjustments. Although the employment estimates from the SEE are substantially affected by the adjustments, average earnings are not.

In respect of the expenditure-based measure of GDP, GDP(E), three aggregates are affected: private final consumption expenditure (PFCE), private gross fixed capital expenditure on equipment (PGFCEE) and increase in private non-farm stocks. Despite significant changes to some of the source data, the impact of the adjustments on PGFCEE is very minor because the quarterly survey-based estimates are benchmarked to annual estimates based on data from the ATO. The impact on GDP(E) from changes to PFCE and the increase in private non-farm stocks is far from uniform. In aggregate, 1993-94 is the year most affected.

GDP(P) is much more affected by the adjustments than either GDP(I) or GDP(E), with the estimates for most industries being changed. This reflects the fact that GDP(P) is more dependent on Business Register-based surveys than the other two. The latest published figures show that GDP(P) has been growing more slowly since 1989-90 than the other two GDP measures, leading to substantial discrepancies in recent periods as shown in table 1. The adjustments have the effect of increasing the growth of GDP(P) and substantially reducing the recent annual discrepancies.

Apart from generally increasing the growth rate of GDP(P), the adjustments lead to minor changes in the pattern of growth in GDP(A) in the last five years. Growth during the recovery phase following the 1990-91 recession is now a little stronger, but growth in 1995-96 is a little weaker.

PART B: IMPROVEMENTS TO CONSTANT PRICE ESTIMATES FOR THE FINANCE AND INSURANCE INDUSTRY IN THE AUSTRALIAN NATIONAL ACCOUNTS

The June quarter 1997 issue of **Australian National Accounts: National Income, Expenditure and Product** (Cat. no. 5206.0), will introduce a major improvement to the methods used for estimating constant price estimates of gross product for the finance and insurance industry and the imputed bank service charge (IBSC). The change will result in a substantial increase in the growth rate of both aggregates over the last decade. Between 1985-86 and 1995-96 the growth rate of the production of the finance and insurance industry will be changed from 14% to 62%. This will mostly feed through to an increase in the growth rate of GDP(P) over the period; it will not completely feed through to GDP(P) growth because the growth rate of the IBSC - which has a negative entry in the accounts - will also

be increased.

As well as changes to GDP(P), there will be somewhat smaller adjustments to GDP(E) and GDP(I) as a consequence of carrying through the change of method for GDP(P) to the corresponding expenditure components, namely private final consumption expenditure and exports of goods and services. The impact on the long-term growth rate of GDP(E) will be minor, but some short-term movements will be affected. The constant price estimates of GDP(I) are derived by deflating the current price estimates with the implicit price deflator of GDP(E). Thus, the constant price estimates of GDP(I) will be impacted in a similar way to those of GDP(E).

The impact of the changes on the various measures of GDP and the components affected are presented in tables 1, 3 and 4.

At present the constant price estimates for the gross product of the finance and insurance industry are calculated by taking the base year (1989-90) value of the industry's contribution to GDP(I) and extrapolating it using total hours worked. This approach rests on the assumption that production, in real terms, is proportional to the number of hours worked by employees in the industry. In effect, it assumes that labour productivity is constant. The approach does not make allowance for increases in output growth that may have occurred as a result of changes in capital intensity or improvements in productivity arising from technological, organisational and other changes over time. The assumption of no change in labour productivity also underlies the existing constant price estimates of the IBSC.

The new method to be implemented involves estimating constant price gross output for each of the major activities through which the gross product of the finance and insurance industry is generated. As with other industries, it is assumed that constant price gross product is a fixed proportion of constant price gross output. While the new estimates fall well short of perfection, they are of similar quality to those of most other industries. The new estimates imply growth of around 43% in labour productivity over the last decade (an average annual growth rate of 3.6%). Given the extent of technological and organisational change in the industry, this appears far more plausible than the zero growth implied by the current estimates.

Constant price estimates of PFCE on financial and insurance services and exports of financial and insurance services are currently derived by deflating the corresponding current price estimates with a combination of relevant elemental indexes from the Consumer Price Index and input cost indexes derived from wage rate and price indexes relating to intermediate inputs. The new expenditure estimates are derived using a combination of price indexes and volume indicators consistent with the new output measures.

Details of the new methods will be published in the June quarter 1997 issue of Cat. no. 5206.0.

FURTHER INFORMATION

is information paper explains improvements that will be made in a range of ABS economic statistics. The adjustments will be incorporated in the relevant series included in the specific publications. The contact officer for each of these publications is shown below:

Wage and Salary Earners, Australia (Cat. no. 6248.0) - Ken Clarke on Perth 08 9360 5141

Private New Capital Expenditure and Expected Expenditure, Australia (Cat. no. 5625.0)
- John Stamolis on Sydney

02 9268 4241

Stocks and Sales, Selected Industries, Australia (Cat. no. 5629.0) - John Stamolis on Sydney 02 9268 4241

Retail Trade, Australia (Cat. no. 8501.0) - Bill Powell on Canberra 02 6252 6132

Business Operations and Industry Performance, Australia (Cat. no. 8140.0) - Bob Harrison on Canberra 02 6252 5521

Manufacturing Industry, Australia (Cat. nos. 8201.0 and 8221.0) - John Ridley on Sydney 02 9268 4541

Australian National Accounts: National Income, Expenditure and Product (Cat. no. 5206.0) - Ross Harvey on Canberra 02 6252 6713 in relation to current price estimates, and Charles Aspden on 02 6252 6711 in relation to constant price estimates

If you have any general queries about the improvements described in this paper, please contact Bernard Williams on Canberra 02 6252 6576.

TABLE 1 IMPACT OF ADJUSTMENTS ON GDP AT AVERAGE 1989-90 PRICES(a)

		1991-92	1992-93	1993-94	1994-95	1995-96
		VALUE (\$ MILLION)				
GDP(A)	Unadjusted	368,308	379,742	396,435	412,361	429,130
	Combined adjustment	1,988	3,149	4,854	5,556	5,324
	Adjusted	370,295	382,890	401,289	417,916	434,454
GDP(P)	Unadjusted	363,729	373,435	388,889	405,182	421,908
	Source data adjustment	2,276	3,138	4,872	6,632	5,466
	New method adjustment	3,231	4,954	5,766	5,742	6,369
	Adjusted	369,236	381,527	399,527	417,556	433,743
GDP(E)	Unadjusted	372,640	385,151	400,850	414,318	431,826
	Source data adjustment	-113	707	1,927	210	107

	New method adjustment	168	148	276	1,882	1,650
	Adjusted	372,695	386,006	403,053	416,410	433,583
GDP(I)	Unadjusted	368,554	380,639	399,566	417,582	433,656
	Combined adjustment	401	499	1,720	2,201	2,379
	Adjusted	368,955	381,138	401,286	419,783	436,035
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PERCENTAGE CHANGE						
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GDP(A)	Unadjusted	0.7	3.1	4.4	4	4.1
	Adjusted	0.7	3.4	4.8	4.1	4
GDP(P)	Unadjusted	-0.5	2.7	4.1	4.2	4.1
	Adjusted	-0.1	3.3	4.7	4.5	3.9
GDP(E)	Unadjusted	2.2	3.4	4.1	3.4	4.2
	Adjusted	2.2	3.6	4.4	3.3	4.1
GDP(I)	Unadjusted	0.4	3.3	5	4.5	3.8
	Adjusted	0.3	3.3	5.3	4.6	3.9

(a)The table shows only the impact of adjustments for improved source data (i.e. missing businesses and the NBP) and improved finance and insurance estimates. The data appearing in the forthcoming June quarter 1997 issue of the Australian National Accounts: National Income, Expenditure and Product (Cat no. 5206.0) will also incorporate revisions arising from the availability of better and more up-to-date data which usually become available at this time of year and other one-off changes. The main revisions will be described in the June quarter 1997 issue of the publication. There will also be a minor change to the methodology for estimating wages, salaries and supplements.

TABLE 2 IMPACT OF ADJUSTMENTS ON GDP(I)(a)

	1991-92	1992-93	1993-94	1994-95	1995-96
	VALUE (\$ MILLION)				
Wages, salaries & supplements					

	Unadjusted	193,727	200,851	2112,08	224,567	240,162
	Source data adjustment	284	416	665	741	796
	Adjusted	194,011	201,267	211,873	225,308	240,958
GDP(I)	Unadjusted	387,045	404,802	429,713	457,646	489,184
	Source data adjustment	284	416	665	741	796
	Adjusted	387,329	405,218	430,378	458,387	489,980
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PERCENTAGE CHANGE						
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	Wages, salaries & supplements					
	Unadjusted	2	3.7	5.2	6.3	6.9
	Adjusted	1.9	3.7	5.3	6.3	6.9
GDP(I)	Unadjusted	2.3	4.6	6.2	6.5	6.9
	Adjusted	2.2	4.6	6.2	6.5	6.9

(a)The table shows only the impact of adjustments for improved source data (i.e. missing businesses and the NBP) described as source data adjustment. The data appearing in the forthcoming June quarter 1997 issue of the Australian National Accounts: National Income, Expenditure and Product (Cat no. 5206.0) will also incorporate revisions arising from the availability of better and more up-to-date data which usually become available at this time of year and other one-off changes. The main revisions will be described in the June quarter 1997 issue of the publication. There will also be a minor change to the methodology for estimating wages, salaries and supplements.

TABLE 3 IMPACT OF ADJUSTMENTS ON GDP (E) AT AVERAGE 1989-90 PRICES

	1991-92	1992-93	1993-94	1994-95	1995-96
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VALUE (\$ MILLION)					
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Private final consumption expenditure					
Unadjusted	224,967	232,103	238,558	249,232	259,751
Source data adjustment	0	-25	403	368	-152

	New method adjustment	58	-85	496	1,880	1,752
	Adjusted	225,025	231,993	239,457	251,480	261,351
Private gross fixed capital expenditure - equipment						
	Unadjusted	22,553	24,928	27,533	32,589	34,554
	Source data adjustment	2	-20	-6	-9	12
	Adjusted	22,555	24,908	27,527	32,580	34,566
Increase in private non-farm stocks						
	Unadjusted	-1,594	-272	834	3,029	2,237
	Source data adjustment	-115	752	1530	-149	247
	Adjusted	-1,709	480	2,364	2,880	2,484
Exports of services						
	Unadjusted	14,584	15,947	18,603	20,247	22,964
	New method adjustment	110	233	-220	2	-102
	Adjusted	14,694	16,180	18,383	20,249	22,862
GDP(E)						
	Unadjusted	372,640	385,151	400,850	414,318	431,826
	Source data adjustment	-113	707	1927	210	107
	New method adjustment	168	148	276	1882	1650
	Adjusted	372,695	386,006	403,053	416,410	433,583

PERCENTAGE CHANGES

Private final consumption
expenditure

Unadjusted	3	3.2	2.8	4.5	4.2
Adjusted	3	3.1	3.2	5	3.9
Private gross fixed capital expenditure - equipment					
Unadjusted	-5.4	10.5	10.5	18.4	6
Adjusted	-5.3	10.4	10.5	18.4	6.1
Exports of services					
Unadjusted	6.6	9.3	16.7	8.8	13.4
Adjusted	7.3	10.1	13.6	10.2	12.9
GDP(E)					
Unadjusted	2.2	3.4	4.1	3.4	4.2
Adjusted	2.2	3.6	4.4	3.3	4.1

(a)The table shows only the impact of adjustments for improved source data (i.e. missing businesses and the NBP) and improved finance and insurance estimates, described as source data adjustment and new method adjustment, respectively. The data appearing in the forthcoming June quarter 1997 issue of the Australian National Accounts: National Income, Expenditure and Product (Cat no. 5206.0) will also incorporate revisions arising from the availability of better and more up-to-date data which usually become available at this time of year and other one-off changes. The main revisions will be described in the June quarter 1997 issue of the publication.

TABLE 4 IMPACT OF ADJUSTMENTS ON GDP(P) AT AVERAGE 1989-90 PRICES(A)

		1991-92	1992-93	1993-94	1994-95	1995-96
		VALUE (\$ MILLION)				
Manufacturing						
	Unadjusted	53,788	54,562	57,192	58,606	58,796
	Source data adjustment	389	489	491	1,145	1,697
	Adjusted	54,177	55,051	57,683	59,751	60,493
Wholesale Trade						
	Unadjusted	34,129	34,289	36,746	40,728	43,318
	Source data adjustment	696	816	1,068	1,625	1,397
	Adjusted	34,825	35,105	37,814	42,353	44,715

Retail Trade

Unadjusted	27,385	27,819	28,373	29,575	30,657
Source data adjustment	65	120	427	534	423
Adjusted	27,450	27,939	28,800	30,109	31,080

Accommodation, cafes and restaurants

Unadjusted	6,983	6,929	7,349	7,977	8,308
Source data adjustment	53	75	174	220	207
Adjusted	7,036	7,004	7,523	8,197	8,515

Transport and storage

Unadjusted	20,396	20,628	22,058	23,687	24,862
Source data adjustment	220	252	327	489	402
Adjusted	20,616	20,880	22,385	24,176	25,264

Communication services

Unadjusted	9,532	10,809	11,871	13,368	15,180
Source data adjustment	74	86	94	105	120
Adjusted	9,606	10,895	11,965	13,473	15,300

Finance and insurance

Unadjusted	17,901	16,909	16,691	16,955	17,572
New method adjustment	2,555	4,161	5,568	5,825	6,275
Adjusted	20,456	21,070	22,259	22,780	23,847

Property and business services

Unadjusted	28,900	31,012	30,866	33,102	34,282
Source data adjustment	1,037	1,572	2,580	2,515	1,191

	Adjusted	29,937	32,584	33,446	35,617	35,473
Education						
	Unadjusted	16,852	18,173	19,102	19,338	19,502
	Source data adjustment	54	48	82	38	39
	Adjusted	16,906	18,221	19,184	19,376	19,541
Health and community services						
	Unadjusted	20,590	20,862	21,455	21,908	23,290
	Source data adjustment	-74	-69	-78	-76	-13
	Adjusted	20,516	20,793	21,377	21,832	23,277
Personal and other services						
	Unadjusted	6,426	6,578	6,602	7,028	7,542
	Source data adjustment	-25	-14	24	38	4
	Adjusted	6,401	6,564	6,626	7,066	7,546
Imputed bank services charge						
	Unadjusted	8,209	8,178	7,433	7,583	8,259
	New method adjustment	-676	-793	-198	83	-94
	Adjusted	7,533	7,385	7,235	7,666	8,165
GDP(P)						
	Unadjusted	363,729	373,435	388,889	405,182	421,908
	Source data adjustment	2,276	3,138	4,872	6,632	5,466
	Finance and insurance adjustment	3,231	4,954	5,766	5,742	6,369
	Adjusted	369,236	381,527	399,527	417,556	433,743

		PERCENTAGE CHANGE				
Manufacturing						
	Unadjusted	-2.8	1.4	4.8	2.5	0.3
	Adjusted	-2.6	1.6	4.8	3.6	1.2
Wholesale trade						
	Unadjusted	-2	0.5	7.2	10.8	6.4
	Adjusted	-1.3	0.8	7.7	12	5.6
Retail trade						
	Unadjusted	4.1	1.6	2	4.2	3.7
	Adjusted	3.9	1.8	3.1	4.5	3.2
Accommodation, cafes and restaurants						
	Unadjusted	1.3	-0.8	6.1	8.5	4.1
	Adjusted	1.2	-0.5	7.4	9	3.9
Transport and storage						
	Unadjusted	4	1.1	6.9	7.4	5
	Adjusted	4.4	1.3	7.2	8	4.5
Communication services						
	Unadjusted	7.1	13.4	9.8	12.6	13.6
	Adjusted	7.1	13.4	9.8	12.6	13.6
Finance and insurance						
	Unadjusted	-7.1	-5.5	-1.3	1.6	3.6
	Adjusted	-3.7	3	5.6	2.3	4.7
Property and business services						
	Unadjusted	-2	7.3	-0.5	7.2	3.6
	Adjusted	-2	8.8	2.6	6.5	-0.4
Education						
	Unadjusted	1.9	7.8	5.1	1.2	0.8
	Adjusted	2	7.8	5.3	1	0.9
Health and community services						

Unadjusted	3.6	1.3	2.8	2.1	6.3
Adjusted	3.5	1.4	2.8	2.1	6.6
Personal and other services					
Unadjusted	-0.6	2.4	0.4	6.5	7.3
Adjusted	-0.8	2.5	0.9	6.6	6.8
Imputed bank services charge					
Unadjusted	2.3	-0.4	-9.1	2	8.9
Adjusted	-4.4	-2	-2	6	6.5
GDP(P)					
Unadjusted	-0.5	2.7	4.1	4.2	4.1
Adjusted	-0.1	3.3	4.7	4.5	3.9

(a)The table shows only the impact of adjustments for improved source data (i.e. missing businesses and the NBP) and improved finance and insurance estimates, described as source data adjustment and new method adjustment, respectively. The data appearing in the forthcoming June quarter 1997 issue of the Australian National Accounts: National Income, Expenditure and Product (Cat no. 5206.0) will also incorporate revisions arising from the availability of better and more up-to-date data which usually become available at this time of year and other one-off changes. The main revisions will be described in the June quarter 1997 issue of the publication.

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About this Release

The ABS is committed to continually improving the accuracy and reliability of its statistics, especially the major economic indicators. This paper describes improvements that will be made in the near future to a range of economic statistics released by the ABS. These improvements will also involve adjustments to previously published data reflecting better coverage of several surveys and better estimation methods. They will result in more accurate and consistent series in the Australian National Accounts.

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